

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

IN RE APPLICATION		DOCKET No.:	50061
OF:	RADEMACHER ET AL.	CONFIRMATION No.:	9694
SERIAL No.	10/009,629	GROUP ART UNIT:	1616
FILED:	DECEMBER 12, 2001	EXAMINER:	ALTON N. PRYOR
FOR:	METHOD OF GENERATING PLANTS WITH AN INCREASED CONTENT OF FLAVONOIDS AND PHENOLIC CONSTITUENTS		

Honorable Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

PRE-APPEAL BRIEF REQUEST FOR REVIEW

Sir:

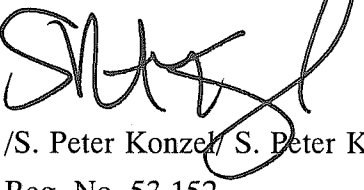
Applicants respectfully request review of the final rejection in the above-identified application which issued on March 16, 2010. No amendments are being filed with this request. This request is being filed with a notice of appeal. The review is requested for the reasons stated on the attached sheets.

The Status of Claims is as follows: Claims 1 to 4, 6, 7, 9 to 12, 14 and 15 are currently pending; of those claims, no claim(s) stand(s) withdrawn, no claim(s) stand(s) objected to; Claims 1 to 4, 6, 7, 9 to 12, 14 and 15 stand rejected, and Claims 5, 8, 13 and 16 to 22 is(are) canceled.

The Commissioner is herewith authorized to charge any additional fees under 37 C.F.R. §1.16 or §1.17 that may be required in connection with this paper, or credit any overpayment, to Deposit Account No. 14.1437. Please reference Attorney Docket No.: 50061.

Respectfully submitted,

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R E M A R K S

In rejecting claims under 35 U.S.C. §103, it is incumbent upon the first instance to establish a factual basis to support the legal conclusion of obviousness.<sup>1)</sup> In so doing, the factual determinations set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 17, 148 USPQ 459, 467 (1966) must be made which *inter alia* includes a determination of the scope and the content of the prior art. In determining the scope and content of the prior art, the references have to be considered as a whole, have to be viewed from the vantage point of one of ordinary skill, and have to be considered without the benefit of impermissible hindsight vision afforded by the claimed invention.<sup>2)</sup> Furthermore, “‘there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness’ ... [H]owever, the analysis need not seek out precise teachings directed to the specific subject matter of the challenged claim, for a court can take account of the inferences and creative steps that a person of ordinary skill in the art would employ.”<sup>3)</sup> If the first instance’s burden is met, the burden then shifts to the applicant to overcome the *prima facie* case with argument and/or evidence.

The rejections of applicants’ claims are based on error in ascertaining the scope and the content of the prior art. Upon proper appreciation of the referenced art from the vantage point of one having ordinary skill, there was no apparent reason to combine the specific elements of applicants’ claims in the fashion claimed. Consequently, the reasons for rejecting applicants’ claims lack the factual basis or rational underpinning which is necessary to support a finding of obviousness.

Applicants’ claims are drawn to a method of increasing and quantitatively modifying the content of flavonoids and phenolic constituents in a plant selected from grapevines and hops in which the plant is treated with a particular acylcyclohexanedione as represented by applicants’ formula (I), *see* Claims 1 to 4 and 9; to a method of producing a plant preparation in which the treated plants are harvested and processed, *see* Claims 10 to 12 and 14; to certain wine grape preparations obtained from treated grapevines, *see* Claim 6; and to certain compositions selected from juices, teas, extracts, fermentation products and fermentation residues prepared from the treated plants, *see* Claims 7 and 15. The claims stand rejected as follows:

1) Claims 1 to 4, 6, 7, 9 to 12, 14 and 15 stand rejected under 35 U.S.C. §103(a) as being unpatentable in light of the teaching of *Motojima et al.* (US 4,866,201). The reference teaches plant-growth regulating compounds (I) having predominantly stunting or dwarfing properties, *see*,

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1) See *In re Fine*, 837 F.2d 1071, 1073, 5 USPQ2d 1596, 1598 (Fed. Cir. 1988).

2) *W.L. Gore & Associates, Inc. v. Garlock, Inc.*, 721 F.2d 1540 (Fed. Cir. 1983), cert. denied, 469 U.S. 851 (1984).

3) *KSR Int’l Co. v. Teleflex Inc.*, 127 S. Ct. 1727, 1741 (quoting *In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006)).

*e.g.*, col. 20, lines 13–16, which *inter alia* render the compounds suited to suppress overluxuriant growth of undergrowth grasses in orchard or pasture land, *see* col. 20, lines 50–60, and col. 22, lines 25–29. Further, it is mentioned that the compounds may suppress spindly growth of flowers, ornamental plants and horticultural plants caused by greenhouse conditions, *see* col. 20, lines 45–49, and that a variety of other effects, including a promotion of fruiting and ripening, may be induced by the compounds depending on the nature of the plants, the means, times and the rates of application, although those other effects are not always manifested, *see* col. 20, lines 16–29.

2) Claims 1, 2 and 10 to 12 stand rejected under 35 U.S.C. §103(a) as being unpatentable in light of the teaching of *Miyazawa et al.* (US 5,015,283). The reference teaches plant-growth regulating synergistic mixtures *inter alia* comprising compounds (I). The mixtures primarily exhibit elongation retarding activities and internode elongation retarding activities, *see* col. 4, lines 41–44, as well as Test Examples. Similar to *Motojima et al.*, the reference mentions that various plant growth regulating activities will be obtained by changing the plant, the manner of application, the timing or the dosage of the active ingredients, *see* col. 4, lines 44–48, and mentions the application to paddy rice, flowers, vegetables and ornamental plants to improve the quality of seedlings for transplantation and low temperature resistance, *see* col. 4, lines 56–61.

3) Claims 1 to 4, 6, 7, 9 to 12, 14 and 15 stand rejected under 35 U.S.C. §103(a) as being unpatentable in light of the teaching of *Evans* (US 6,022,831). The reference pertains to a method of controlling fireblight, a disease caused by the bacterium *Erwinia amylovora*, in susceptible trees, *see* col. 1, lines 13–19. Susceptible trees mentioned are apple, quince, crabapple and pear trees, and the reference further mentions susceptible plants belonging to the genera *Cotoneaster*, *Crataegus*, *Cydonia*, *Malus*, *Photinia*, *Pyracantha*, *Pyrus*, or *Sorbus*, *see* col. 2, line 66, to col. 3, line 1, and col. 5, lines 18–67.

Each of the rejections is based primarily on an assertion that hops are ornamental plants and/or that grapevines are fruit trees or are subsumed under orchards.<sup>4)</sup> In reply to applicants' submissions to the contrary, *see, e.g.*, applicants' paper of November 30, 2009, the rejections merely assert, *e.g.*, "*hop plants produce flowers so in the board view hop plants are display or ornamental plants. In addition, a vine can be considered a tree. Therefore, grapevine in a board view can be considered [lacuna] an orchard. These are reasonable and logical conclusions; therefore the citing [lacuna] an authority, or swearing out an affidavit in [sic] not required.*" Official notice unsupported by documentary evidence should only be taken where the facts asserted to be well-known, or to be common knowledge in the art, are capable of instant and unquestionable

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4) Office action page 2, line 19 et seq., page 4, line 20 et seq., page 6, line 2 and line 12 et seq., page 7, line 13, and page 8 line 8 et seq.

demonstration as being well-known. As noted by the court in *In re Ahlert*, 424 F.2d 1088, 1091 (CCPA 1970), the notice of facts beyond the record which may be taken must be “capable of such instant and unquestionable demonstration as to defy dispute” (citing *In re Knapp Monarch Co.*, 296 F.2d 230 (CCPA 1961)). As evidenced by the material provided by applicants, the asserted facts are not capable of such instant and unquestionable demonstration as to defy dispute. Moreover, the assertion on which the rejections are based finds no evidentiary support in the record. However, it is inappropriate to rely solely on “common knowledge” in the art without evidentiary support in the record, as the principal evidence upon which a rejection was based.<sup>5)</sup> The argument that a person having ordinary skill in the agricultural art would consider hops as ornamental plants, or grapevines as fruit trees which are grown in orchards, is unsupported by sound technical and scientific reasoning.<sup>6)</sup> Neither one of the references supports a conclusion that a person of ordinary skill in the agricultural art would consider ornamental plants to include hop plants and/or would consider grapevines to be fruit trees or subsumed under orchards. Additionally, the teaching of *Evans* does not support a conclusion that grapevines may reasonably be considered among fruit trees which are susceptible to fireblight.

Based on the unsupported allegation that hops are ornamental plants and/or that grapevines are fruit trees or are subsumed under orchards, each of the rejections asserts that the result obtained in accordance with applicants’ method is inherently present in the respective reference.<sup>7)</sup> However, “[t]o establish inherency, the extrinsic evidence ‘must make clear that the missing descriptive matter is necessarily present in the thing described in the reference, and that it would be so recognized by persons of ordinary skill. Inherency, however, may not be established by probabilities or possibilities. The mere fact that a certain thing may result from a given set of circumstances is not sufficient.’”<sup>8)</sup> Neither the references, nor any extrinsic evidence of record, make clear that the missing descriptive matter is necessarily present in any and all plants and/or ornamental plants and/or any and all fruit trees or fruit plants grown in orchards mentioned in the references. Moreover, by alleging that hops are ornamentals and/or that grapevines are fruit trees or are subsumed under orchards, the rejections, in fact, create the particular elements delineated in applicants’ claims, and rely on the specific results and effects disclosed by applicants. However, inherence of an advantage or property and its obviousness are entirely different questions and an inherent advantage or property which is achieved only under a given set of circumstances is not *necessarily* known or appar-

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5) *In re Zurko*, 258 F.3d 1379, 1385 (Fed. Cir. 2001).

6) *In re Soli*, 317 F.2d 941, 946 (CCPA 1963), *In re Chevenard*, 139 F.2d 711, 713 (CCPA 1943).

7) Office action page 2, line 20 et seq., page 6, line 2 et seq., page 7, line 13 et seq., and page 8, line 13 et seq.

8) *In re Robertson*, 169 F.3d 743, 745 (Fed. Cir. 1999) (citations omitted; emphasis added).

ent to a person of ordinary skill. Obviousness cannot be predicated on what is unknown.<sup>9)</sup> Moreover, it is error, and impermissible in a determination under Section 103(a), to pick and choose from the prior art only so much as will support a given position as well as taking the applicant's disclosure as a map, or to pick only so much as will support a given position, to the exclusion of other parts of the reference which are necessary to the full appreciation of what such reference fairly suggests to one of ordinary skill in the art.<sup>10)</sup>

Also based on the unsupported allegation that hops are ornamental plants and/or that grapevines are fruit plants or trees or are subsumed under orchards, each of the rejections asserts that each of the respective references teaches a genus encompassing the claimed subject matter, and that it would have been obvious to employ any species within the genus.<sup>11)</sup> However, the fact that a claimed species or subgenus is encompassed by a prior art genus is not sufficient by itself to establish a *prima facie* case of obviousness.<sup>12)</sup> In fact, the Federal Circuit has “*decline[d] to extract from Merck [ & Co. v. Biocraft Laboratories Inc., 874 F.2d 804 (Fed. Cir. 1989)] the rule that . . . regardless of how broad, a disclosure of a chemical genus renders obvious any species that happens to fall within it.*”<sup>13)</sup> An analysis under Section 103 requires “*to determine whether there was an apparent reason to combine known elements in the fashion claimed by the patent at issue.*”<sup>14)</sup> Neither the asserted genus-species relationship nor the references provide an apparent reason to combine the necessary elements, *i.e.*, to apply the prior art compounds to hops or grapevine, in the fashion delineated in applicants claims. Moreover, not only the materials used and the nature of the specific process employed but also the particular result which is obtained must be considered when determining whether a claimed method is obvious within the meaning of Section 103.<sup>15)</sup> Applicants' claims 1 to 4, 9 to 12 and 14 relate to particular methods by which the content of flavonoids and phenolic constituents in hops or grapevines is increased and qualitatively modified. None of the references reasonably suggest or imply the respective result, and the result is not inherent in the teaching of the references. Again, obviousness cannot be predicated on what is unknown.<sup>9)</sup>

Furthermore, on the basis of the alleged genus-species relationship, each of the rejections

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9) *In re Rijckaert*, 9 F.3d 1531, 1534 (Fed. Cir. 1993).

10) *In re Wesslau*, 353 F.2d 238, 147 USPQ 391, 393 (CCPA 1965).

11) Office action page 4, line 3 et seq., page 6, line 14 et seq., and page 7, line 20 et seq.

12) *In re Baird*, 16 F.3d 380, 382 (Fed. Cir. 1994) (“The fact that a claimed compound may be encompassed by a disclosed generic formula does not by itself render that compound obvious.”).

13) *In re Jones*, 958 F.2d 347, 350 (Fed. Cir. 1992).

14) *KSR Int'l v. Teleflex, Inc.*, 550 U.S. 398, 418 (2007); emphasis added.

15) *In re Dillon*, 919 F.2d 688, 695 (Fed. Cir. 1990) (*en banc*), *cert. denied*, 500 U.S. 904 (1991).

asserts, e.g., that “[a]ccording to KSR, it would have been obvious to try applying the instant compound of formula I to any ornamental plant and any fruit plant, including the hop plant and grapevine plant as claimed, ...” (emphasis added).<sup>16)</sup> Notably, however, the Supreme Court’s holding in *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 421, 127 S.Ct. 1727 (2007) confirms that “obvious to try” is erroneously equated with obviousness under Section 103(a) where “what would have been “obvious to try” would have been to vary all parameters or try each of numerous possible choices until one possibly arrived at a successful result, where the prior art gave either no indication of which parameters were critical or no direction as to which of many possible choices is likely to be successful.”<sup>17)</sup> Both *Motojima et al.* and *Miyazawa et al.* teach that it depends upon the nature of the plants and the means, times and application rates of the compounds whether a plant-growth regulating effect is achieved at all, and if so which effect. What would have been obvious to try in light of the references, thus, would have been to vary all of the prior art parameters or to try out each of the numerous choices until one possibly arrived at a successful result. As concerns *Evans*, the rejection alleges that “[a]ccording to KSR, it would have been obvious to try applying the instant compound of formula I to any fruit tree, including the grapevine plant as claimed, since *Evans et al.* [sic] teach broadly the application of the compound of formula I to fruit plants.”<sup>18)</sup> However, the reference merely teaches the treatment of trees susceptible to fireblight and, thus, cannot be deemed to refer to any fruit tree. Additionally, neither the reference nor the record reasonably supports that a person of ordinary skill would reasonably consider a vine such as grapevine to be a fruit tree.

For the reasons stated above, and in light of applicants’ previous remarks,<sup>19)</sup> it is respectfully urged that

- 1) the rejection of Claims 1 to 4, 6, 7, 9 to 12, 14 and 15 under 35 U.S.C. §103(a) as being unpatentable in light of the teaching of *Motojima et al.*;
  - 2) the rejection of Claims 1, 2 and 10 to 12 under 35 U.S.C. §103(a) as being unpatentable in light of the teaching of *Miyazawa et al.*; and
  - 3) the rejection of Claims 1 to 4, 6, 7, 9 to 12, 14 and 15 stand rejected under 35 U.S.C. §103(a) as being unpatentable in light of the teaching of *Evans*,
- were in error and should be withdrawn. Favorable action is solicited.

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16) Cf., Office action page 2, line 23 et seq., page 3, line 8 et seq., page 6, line 5 et seq., page 8, line 1 et seq. and line 21 et seq.

17) See *In re Kubin*, 561 F.3d 1351, 1359 (2009) (quoting *In re O’Farrell*, 853 F.2d 894, 903 (Fed. Cir.1988).

18) Office action page 8, lines 1 to 3; emphasis added.

19) Applicants’ papers of November 30, 2009, February 05, 2009, June 26, 2008, December 18, 2007, August 26, 2008, February 05, 2009, and June 26, 2009, each of which is herewith incorporated by reference.